Category:

8. Immune cells in Sjögren's syndrome

Title:

The altered distribution of follicular T helper cells may predict a more pronounced clinical course of primary Sjögren's syndrome.

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Recent studies emphasized the important role of follicular T helper (T_{FH}) cells, which contribute to B-cell differentiation, as well as antibody production. The aim of our study was to investigate the possible role of T_{FH} cells in the pathogenesis of primary Sjögren's syndrome (pSS). In the first part of the study, we focused on the periphery by analyzing immune-competent cells and serological markers. We enrolled 50 pSS patients and 16 healthy controls in the study. Patients had elevated ratio of peripheral T_{FH} cells, however, when dividing patients into two groups defined by the presence of extraglandular manifestations (EGMs), only patients with EGMs differed from controls significantly. Moreover, T_{FH} cell percentages correlated positively with both activated T cell and Tr1 cell values, but T_{FH} cell percentages showed negative correlation with both IgM and IgG memory B cell proportions. Elevated T_{FH} percentages were observed in the anti-SSA/SSB positive patients. In the second part, we concentrated on the site of the inflammation, and determined the composition of lymphocyte infiltration in labial salivary gland (LSG) biopsies with special emphasis on T_{FH} cells. We selected tissue blocks obtained from 10 patients at the time of disease onset. LSGs were graded based on the organizational level of periductal lymphocytic infiltrates. T_{FH} cell markers occurred predominantly in more organized structures with higher focus scores. The co-expression of CD3 and Bcl-6 markers identified T_{FH} cells close to Bcl-6^+ B cells with the typical formation of germinal centers. Systemic features were developed later in the disease course only in patients with more structured infiltrates.

Our results indicate that the presence of T_{FH} cells in LSGs at the disease onset may predict a more pronounced clinical course of pSS. We expect that the further understanding of the regulation of T_{FH} cells will provide new potential therapeutic targets in the treatment of pSS patients with EGMs.